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Cooperative Economic Insect Report

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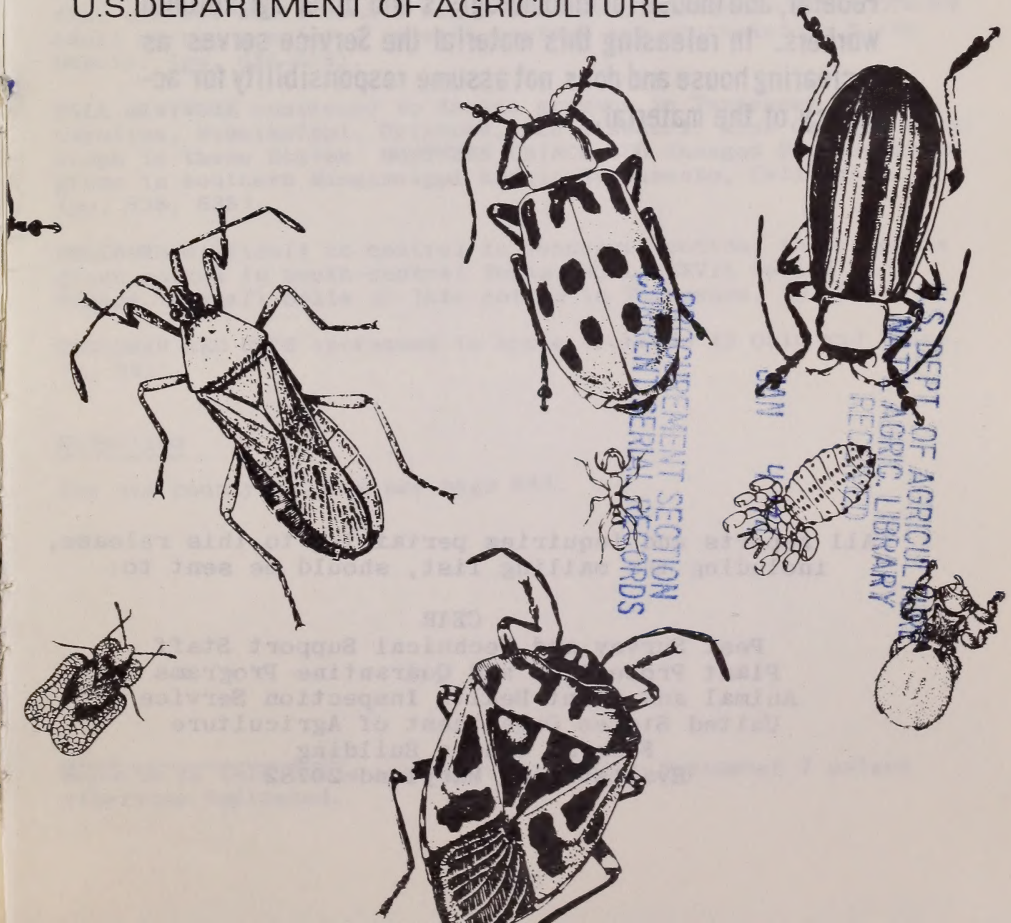

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The Cooperative Economic Insect Report is issued weekly as a service to American Agriculture. Its contents are compiled from information supplied by cooperating State, Federal, and industrial entomologists and other agricultural workers. In releasing this material the Service serves as a clearing house and does not assume responsibility for accuracy of the material.

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Volume 23 September 14, 1973 Number 37

COOPERATIVE ECONOMIC INSECT REPORT

HIGHLIGHTS

Current Conditions

CORN EARWORM damaged soybeans across South Carolina and in eastern Virginia; heavy in some late sweet corn in Wisconsin and ranged moderate to heavy on corn in southeast Missouri. (pp. 635-636).

EUROPEAN CORN BORER second-generation larvae unusually heavy in some corn in east-central Kansas; averaged more than 100 per 100 stalks in northwest and northeast Indiana. CORN ROOTWORM survey completed in Wisconsin; larval populations in 1974 may be heavier than current adult counts might indicate. NORTHERN CORN ROOTWORM adult survey completed in east-central and southeastern North Dakota. (pp. 636-638).

FALL ARMYWORM continued to damage grasses in Tennessee, South Carolina, Mississippi, Oklahoma, and Missouri; also damaged other crops in these States. SOUTHERN CHINCH BUG damaged St. Augustine grass in southern Mississippi and in Sacramento, California. (pp. 638, 639).

BOLLWORM difficult to control in Tennessee cotton; increased in green cotton in south-central Texas. BOLL WEEVIL caused much damage to small bolls in late cotton in Tennessee. (p. 641).

EUROPEAN RED MITE increased in apple orchards in Ohio and Maine. (p. 642).

Detection

For new county records see page 644.

Reports in this issue are for week ending September 7 unless otherwise indicated.

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WEATHER OF THE WEEK ENDING SEPTEMBER 10

Reprinted from Weekly Weather and Crop Bulletin Supplied by Environmental Data Service, NOAA.

HIGHLIGHTS: Cool Canadian air finally broke the eastern heat wave late in the week and brought fall weather to many Northern States. Mt. Washington, New Hampshire, dropped to 30 degrees over the weekend and snow dusted the mountain. Tropical storm Delia struck the Texas coastline near Galveston early Tuesday. The Lake Charles, Louisiana, area received 10 inches of rain and over 6 inches fell in parts of Texas, Louisiana, and Arkansas. Delia was also associated with 2-inch rains in parts of Oklahoma, Missouri, Iowa, and Illinois.

PRECIPITATION: While thundershowers brought cold rain to the Corn Belt and northern Plains Monday, gulf coast residents eyed tropical storm Delia. Galveston reported wind squalls of 57 m.p.h., tides 4 feet above normal, and 1.75 inches of rain in 2 hours. Delia came ashore Tuesday afternoon near Galveston, Texas, and moved slowly northwestward. Winds blew 70 m.p.h. near her center and torrential rains covered large areas. Ellington Air Force Base near Houston, Texas, received 2.87 inches of rain in 6 hours. Lake Charles, Louisiana, received 1.38 inches during the same 6 hours with a total of 3.33 inches in 24 hours. Delia drifted slowly along the coast on Wednesday depositing more than one inch of rain over east Texas. Late Wednesday, rains included LaFayette, Texas, 2.50 inches and Lake Charles, Louisiana, 4.45 inches. The Lake Charles total for Wednesday stood at 7.62 inches. Delia also caused some tornadoes, mostly in Mississippi. Thursday, Delia caused rain from Florida to Texas and Oklahoma. Jonesboro, Arkansas, was drenched with 6.75 inches of rain early Thursday. Thunderstorms were also active along a cold front from the Ohio Valley to New England. More than 3 inches of rain fell on Millersburg, Ohio. Later Thursday, Delia weakened from a storm into a tropical depression but still caused heavy rain. Over 6 inches fell at Wolfe City, Texas, and 1 to 3 inches was common throughout the southern Plains. Late Thursday, Lake Charles, Louisiana, had received over 10 inches of rain since Monday. Weather of the week continued on page 646.

SPECIAL INSECTS OF REGIONAL SIGNIFICANCE

ARMYWORM (Pseudaletia unipuncta) - ALABAMA - Mixed larval populations of P. unipuncta and Spodoptera frugiperda (fall armyworm) increased in grass hay crops over State. Heavy and damaging in many fields in St. Clair, Morgan (very heavy), Marengo, Bibb (outbreak heavy), Blount, Pickens, and Macon Counties. Damaged lawn grasses in Marengo and Mobile Counties. (Yates et al.). MICHIGAN - P. unipuncta damaged late-planted corn in McComb and St. Clair Counties. Possibly present in other areas. Infestation so late in season unusual but not unprecedented. Growers advised to check corn and other crops. (Pynnonen, Ruppel). CALIFORNIA - Larvae of P. unipuncta and Spodoptera exigua (beet armyworm) damaged corn planting at Santa Maria, Santa Barbara County. (Cal. Coop. Rpt.).

CORN EARWORM (Heliothis zea) - ALABAMA - Larvae averaged less than 10 per 30 row feet in 36 of 40 soybean fields checked in Baldwin County; ranged 10-30 per 30 row feet in 4 fields. Larvae minor problem in Baldwin County soybeans. (Turner et al.). SOUTH CAROLINA - Larvae continued to damage soybeans across State. (Thomas). NORTH CAROLINA - Few larvae noted in soybeans across Coastal Plain except in blooming fields or those which have bloomed in past 14 days. More large larvae (fourth instar or larger) noted in spot checks than small larvae (third instar or less) in all fields surveyed. Damage ended in 75+ percent of Coastal Plain soybeans, no reinfestation expected. Fields blooming or not yet bloomed should be sampled during blooming period. (Hunt). Damage by H. zea larvae very widespread in north Coastal Plain peanuts. Economic in Chowan, Northampton, and Martin Counties week ending August 31. Defoliation observed in scattered fields in Halifax and Edgecombe Counties. (Peedin, Perry).

VIRGINIA - H. zea larvae damaged soybeans from city of Virginia Beach to Westmoreland County. Larvae averaged 3 per 30 row feet in 4 fields of 12-field sample in Southampton, Isle of Wight, James City, Caroline, Accomack, and Sussex Counties and from Independent City of Nancemond. Larvae averaged 3.3 per 30 row feet in 21 untreated fields of 32 fields checked in city of Virginia Beach; 296 of 865 acres treated this period. (Allen). NEW JERSEY - Population increase heavy since late August. Lettuce growers can expect problems soon. (Ins.-Dis. Newsltr.).

WISCONSIN - H. zea moths heavier in blacklight traps than last period. Small larvae heavy in some late sweet corn. Larvae of H. zea and Ostrinia nubilalis (European corn borer) infested average of 12 percent of ears in Columbia, Dodge, and Fond du Lac Counties; up to 44 percent in exceptional fields. Some growers began treatments. (Wis. Ins. Sur.). MISSOURI - Moderate to heavy in corn in southeast area; 23-91 percent of ears checked showed earworm damage. Larvae ranged 8-73 per 100 ears. Many larvae pupated in early fields but all stages found in late-planted fields. (Munson). KANSAS - Blacklight trap catches indicate large number of moths still flying in Barton, Riley, and Brown Counties; increased in Finney County. Larvae averaged 4 per 100 sweeps in 15-inch alfalfa in Riley County. (Bell).

ARKANSAS - Few isolated soybean fields treated for Heliothis zea. Large acreage of late soybeans still vulnerable to infestation, area will be scouted later in season than usual. (Boyer). OKLAHOMA - Infested 2-10 percent of sorghum heads in fields checked in Wagoner, Coal, and Bryan Counties. (Okla. Coop. Sur.). NEW MEXICO - Larvae ranged 1-3 per 10 sorghum heads around Rodeo, Hidalgo County. (N.M. Coop. Rpt.). COLORADO - Infested 34 percent of ear tips in southeastern area cornfields. (Schweissing). UTAH - Heavily infested sweet and field corn in Millard County fields. (Chapman).

CORN LEAF APHID (Rhopalosiphum maidis) - OKLAHOMA - Ranged 200-300 per head in scattered sorghum fields in Jackson County; light in west-central counties. (Okla. Coop. Sur.). MONTANA - Present in most corn in State, but has not been problem this season. (Pratt).

GREENBUG (Schizaphis graminum) - OKLAHOMA - Continued heavy on sorghum in Kiowa, Caddo, and Washita Counties. Ranged 25-100 per leaf in Tillman County. (Okla. Coop. Sur.). UTAH - Damaged fields of milo in Washington County. (Huber). WASHINGTON - Scattered colonies found on leaves of sorghum at Mabton, Yakima County, August 27. (Klostermeyer).

HORNWORMS (Manduca spp.) - KENTUCKY - Populations of M. sexta (tobacco hornworm) and M. quinquemaculata (tomato hornworm) very light on tobacco for time of year. Damage neglgible statewide. Larvae heavily parasitized. (Barnett).

SPOTTED ALFALFA APHID (Therioaphis maculata) - NEW MEXICO - Ranged up to 15 per 10 trifoliolate leaves throughout Rio Grande Valley in Bernalillo County alfalfa. (N.M. Coop. Rpt.). UTAH - Light in Millard County alfalfa; caused no damage in Washington County. (Chapman, Huber). NORTH DAKOTA - Collected from alfalfa in Barnes, Ransom, Sargent, and Richland Counties for new county records. (Brandvik, Kaatz). MICHIGAN - Taken in Ingham County test field, about 100 per 20 sweeps collected. Ranged none to common in other fields. Infestations may continue to increase and cause problems. Alfalfa fields should be checked. Buildup may have been aided by recent hot weather and may subside with return to normal weather. (Ruppel et al.).

CORN, SORGHUM, SUGARCANE

EUROPEAN CORN BORER (Ostrinia nubilalis) - KANSAS - Second-generation larvae unusually heavy in corn in some fields in eastern Lyons County. Infestations involving 75-90 percent of stalks with 2-4 larvae per infested stalk not uncommon. Some second-generation pupae noted; at least partial third generation expected. (Bell). WISCONSIN - Moth catches in blacklight traps declined in southern area; continued rather stable in northern and eastern areas. Cool weather late this period reduced collections, but activity will be prolonged as result of cooler temperatures. (Wis. Ins. Sur.). ILLINOIS - First-generation survey completed. Population considered light, averaged only 1.4 borers per 100 plants for State. (Ill. Ins. Rpt.).

INDIANA - O. nubilalis larvae averaged 120 (range 4-396) per 100 stalks in 10 cornfields in northwest district; one larva collected pupated in laboratory shortly after collection. Larvae averaged 84 (range 24-160) per 100 stalks in 6 north-central district fields and 150 (range 68-250) per 100 stalks in 9 northeast district fields. Adults again appeared in west-central district light trap;

about one percent of larvae in fields adjacent to this trap have pupated. Partial third generation normal for southwest district, unusual elsewhere in State. (Sillings, Meyer). DELAWARE - Adults averaged 100+ per night in blacklight traps in Sussex County. Infestation in late-planted sweet corn and in untreated peppers ranged 60-100 percent. (Burbutis, Davis).

NORTH CAROLINA - Damage by Ostrinia nubilalis severe in some scattered cornfields but generally light throughout State. Population ranged from one percent infestation to about 80 percent infestation in some fields. Severe in Northampton, Edgecombe, and Sampson Counties. Most corn mature, should be harvested before severe lodging occurs. (Upton et al.). ALABAMA - Larvae caused lodging and ear drop in 20-acre cornfield at Goodway, Monroe County. Pest first reported in this county in 1970. (T. Lemons, S. Lemons).

FALL ARMYWORM (Spodoptera frugiperda) - MISSISSIPPI - Heavy in late-planted sorghum in Noxubee County; 5-20 percent of heads infested with late-instar larvae. Continued heavy on late-planted corn for silage in same county; 75-90 percent of plants infested in some fields. In Yazoo County, 5+ percent of sorghum heads infested; controls unsuccessful. (Robinson). OKLAHOMA - Caused heavy damage to sorghum and Sudan crosses in Grant County; light in sorghum in west-central counties. (Okla. Coop. Sur.). OHIO - Infested 33 percent of corn plants in one Licking County field. Larvae ate about half of foliage; plants 30 inches tall. (Blair).

SORGHUM WEBWORM (Celama sorghiella) - MISSOURI - Light to moderate in all early planted sorghum fields checked in southeast area. Larvae ranged 150-600 per 100 heads. (Munson).

CORN ROOTWORMS (Diabrotica spp.) - WISCONSIN - Adult survey completed; observations made on 25 selected plants from each of 225 cornfields. Summer of 1973 was exceptional in reference to corn rootworms. Adults emerged about 2 weeks early; weather since has been exceptionally favorable for mating, egg laying, and movement from field to field. Therefore, larval populations in 1974 may be heavier than current adult counts might indicate. Damage, as evidenced by lodging and "goosenecking" of plants very light in fields surveyed. Considering rootworm populations observed in some fields, this is surprising; apparently, absence of wind and rainstorms when root systems were most weakened is explanation. D. longicornis (northern corn rootworm) dominant species on statewide basis. D. virgifera (western corn rootworm) dominant species in Grant, Iowa, Lafayette, Crawford, Richland, Sauk, Marquette, Washara, Vernon, Jackson, Clark, Marathon, Chippewa, St. Croix, Barron, Waupaca, Kewaunee, and Sawyer Counties; also dominant in individual fields in Rock, Green, Dane, Columbia, Dodge, Green Lake, Winnebago, Calumet, Manitowoc, Brown, Outagamie, Juneau, Monroe, Trempealeau, Eau Claire, Dunn, Pierce, and Polk Counties. D. virgifera was found for the first time in Sawyer and Washburn Counties, D. longicornis for the first time in Burnett and Washburn Counties. Currently, D. longicornis adults numerous in sweet corn silks in many fields in Fox River Valley; averaged about 5 per ear in some fields. D. longicornis adults dispersing en masse from older corn as silks dry; large numbers encountered in alfalfa and grass fields and about lights in rural areas at night. Many also moved to cornfields with green silks. (Wis. Ins. Sur.).

WESTERN CORN ROOTWORM (Diabrotica virgifera) - NORTH DAKOTA - Adult survey completed in 7 east-central and southeastern counties showed 56 percent of cornfields infested with average of 36 beetles per 100 plants. Number of fields examined, percent fields infested, and number of beetles per 100 plants by county as follows: Barnes - 10, 20, 4; Cass - 8, 50, 20; Dickey - 7, 70, 10; La Moure - 5, 60, 84; Ransom - 10, 40, 5; Richland - 14, 93, 110; Sargent - 5, 60, 18. Barnes and La Moure are new county records. (Brandvik, Kaatz).

SAY STINK BUG (Chlorochroa sayi) - NEW MEXICO - Treatments applied to sorghum weekly north of Rodeo and in the Virden Valley, Hidalgo County. Counts of 20-30 nymphs per head common in area. (N.M. Coop. Rpt.).

FALSE CHINCH BUG (Nysius ericae) - NEW MEXICO - Continued to cause problems in sorghum. Some treatments applied in Quay County. Populations moving into sorghum in Chaves and Curry Counties. (N.M. Coop. Rpt.).

SORGHUM MIDGE (Contarinia sorghicola) - MISSOURI - Adults ranged light to moderate in most late-planted sorghum fields that are now pollinating in southeast area. (Munson). TEXAS - No problem to Hale County grain sorghum this year. Late fields in county should be watched closely. (Latham).

BANKS GRASS MITE (Oligonychus pratensis) - NEW MEXICO - Noted on corn, heavy damage seen on some leaves in Chaves and Curry Counties. (N.M. Coop. Rpt.).

TURF, PASTURES, RANGELAND

FALL ARMYWORM (Spodoptera frugiperda) - TENNESSEE - Larvae continued to damage Bermuda grass lawns, Sudex, and alfalfa in western area. In some locations, moved from pastures into soybean fields. (Pendergrass). SOUTH CAROLINA - Severe outbreaks recorded in Georgetown County; about 100 acres of Coastal Bermuda grass completely defoliated. Spotted infestations present generally over State but this is first heavy population to develop. Growers alerted to watch for infestations. (Thomas). MISSISSIPPI - Larvae continued heavy in Bermuda grass pastures and yards in Madison, Rankin, Hinds, and Warren Counties. Pest has spread from southern counties since June and currently infested Bermuda grass and Johnson grass in northern area in Oktibbeha, Monroe, and Lee Counties. (Robinson).

OKLAHOMA - Fall armyworm heavy in Bermuda grass lawns in Caddo, Cotton, and Lincoln Counties and in fescue lawns in Tulsa County. Moderate in lawns in Coal, Atoka, Bryan, and McIntosh Counties and in pastures in Hughes, Pittsburg, and McIntosh Counties. (Okla. Coop. Sur.). MISSOURI - Infestations reported from pastures, lawns, gardens, late soybeans, and sorghum throughout southern half of State. (Munson). KANSAS - Larvae reported in large numbers in some lawns in Manhattan, Riley County, and Rossville, Shawnee County. Heavy infestation suspected to have been this pest reported in turf of golf course in Topeka, Shawnee County; infestation treated. (Bell).

SOUTHERN CHINCH BUG (Blissus insularis) - MISSISSIPPI - Continued to damage St. Augustine grass lawns in Hinds, Rankin, Madison, and other southern counties. Dead spots evident in lawns. (Robinson). CALIFORNIA - Severely damaged St. Augustine grass lawns at Sacramento, Sacramento County. If untreated, pest can destroy entire planting. (Cal. Coop. Rpt.).

HAIRY CHINCH BUG (Blissus leucopterus hirtus) - NEW HAMPSHIRE - Heavy in lawns at Manchester, Hillsboro County. (Knoop).

FORAGE LEGUMES

ALFALFA CATERPILLAR (Colias eurytheme) - NEW MEXICO - Larvae ranged 20-30 per 25 sweeps in alfalfa in Virden Valley, Hidalgo County. Counts of 2 per 25 sweeps common in Bernalillo County. (N.M. Coop. Rpt.). COLORADO - Larvae ranged 0-500 per 100 sweeps in alfalfa in southeastern counties. (Schweissing). ILLINOIS - Larval averages ranged up to 7 per sweep of alfalfa in Boone and Stephenson Counties. (Ill. Ins. Rpt.).

GARDEN WEBWORM (Loxostege rantalis) - KANSAS - Larvae averaged 35 per 100 sweeps in 15-inch Riley County alfalfa. (Bell).

FORAGE LOOPER (Caenurgina erechtea) - KANSAS - Larvae averaged 60 per 100 sweeps in 15-inch alfalfa in Riley County. (Bell).

GREEN CLOVERWORM (Plathypena scabra) - KANSAS - Larvae averaged 40 per 100 sweeps in 15-inch alfalfa in Riley County. (Bell).

ALFALFA WEEVIL (Hypera postica) - COLORADO - Larvae ranged 0-400 per 100 sweeps in alfalfa in southeastern counties. (Schweissing). KANSAS - Adults averaged 4 per 100 sweeps in 15-inch Riley County alfalfa. (Bell).

THREECORNERED ALFALFA HOPPER (Spissistilus festinus) - NEW MEXICO - Ranged 150-200 per 10 sweeps in alfalfa near Virden, Hidalgo County. (N.M. Coop. Rpt.).

PEA APHID (Acyrthosiphon pisum) - COLORADO - Ranged 0-600 per 100 sweeps in alfalfa in southeastern counties. (Schweissing).

MEADOW SPITTLEBUG (Philaenus spumarius) - KENTUCKY - Heavy in alfalfa at various locations over State. (Barnett).

SOYBEANS

GREEN CLOVERWORM (Plathypena scabra) - MINNESOTA - Heavy infestations reported on soybeans in southern area, particularly in southeast district. Most soybeans advanced enough that treatment will not pay. Very little spraying done. (Minn. Pest Rpt.). OHIO - Concern due to unprecedented statewide outbreak this season subsided. Ichneumonid wasp, braconid wasp, and tachina fly parasites emerged from P. scabra larvae. Fungus disease also caused notable larval mortality. (Blair, Eisly). OKLAHOMA - Adults heavy at lights in Stillwater area, Payne County. (Okla. Coop. Sur.).

BEET ARMYWORM (Spodoptera exigua) - SOUTH CAROLINA - Larvae continued to cause economic damage to soybeans in southern part of State. Most growers applied controls, results good. (Thomas). MISSISSIPPI - One or more applications made to several soybean fields in Leflore County with poor results. (Robinson).

VELVETBEAN CATERPILLAR (Anticarsia gemmatalis) - ALABAMA - Larvae of this pest and other leaf feeders increased in many fields in southwest area; reported in most fields in Marengo, Mobile, and Baldwin Counties. Damage not yet serious in these counties; defoliation ranged 2-20 percent, less than 5 percent in 95 percent of fields. Unusually heavy in several Geneva County fields where no controls applied. Larvae averaged 25 per 6 row feet with 25 percent defoliation in 40-acre field in pod set stage; averaged 92 per 6 row feet in 30-acre field just setting pods with 40 percent defoliation. Few larvae found in 2 other fields. (Yates et al.).

MEXICAN BEAN BEETLE (Epilachna varivestis) - VIRGINIA - Spraying continued on large acreages in Northern Neck area. In 12 fields sampled (232 acres) in Southampton, Isle of Wight, James City, Caroline, Accomack, and Sussex Counties and in Independent City of Nancemond, beetles averaged 4.8 per 30 row feet in untreated fields; 160 of 232 acres treated. Defoliation averaged 4.3 percent. In 32-field sample of 865 acres in city of Virginia Beach, beetles averaged 12.7 per 30 row feet in 21 untreated fields; 296 of 865 acres treated this period; defoliation averaged 8.1 percent for all fields. (Allen). DELAWARE - Heavy in some fields in eastern Sussex County. (Bray).

THREECORNERED ALFALFA HOPPER (Spissistilus festinus)- TEXAS - Heavy, damaged soybeans in most coastal counties and in Brazos, Washington, and other counties along Brazos River. (Cole).

LYGUS BUGS (Lygus spp.) - ARIZONA - Nymphs and adults moved from alfalfa and damaged soybeans in Yuma County. (Ariz. Coop. Sur.).

GRASSHOPPERS - WISCONSIN - Damaged soybeans and alfalfa; much damage evident in some soybeans but yield appears quite favorable in spite of damage present. Most grasshoppers centered along roadsides and throughout soybean fields, but damage increased in marginal rows of corn. Nymphs heavier than normal in sandier soiled areas. (Wis. Ins. Sur.).

PEANUTS

LESSER CORNSTALK BORER (Elasmopalpus lignosellus) - TEXAS - Increased significantly on peanuts in Comanche County. Dryland field checks September 4 showed 80, 60, and 27 percent of peanuts infested. Extensive larval feeding on developing peanuts noted in one field; 2-3 borers per plant common. (Hoelscher, Hines).

REDNECKED PEANUTWORM (Stegasta bosqueella) - OKLAHOMA - Infestations ranged up to 76 percent of terminals in peanuts checked in Caddo and Washita Counties. (Okla. Coop. Sur.).

BEET ARMYWORM (Spodoptera exigua) - NORTH CAROLINA - Larvae of this species and S. frugiperda (fall armyworm) defoliated peanuts in Halifax County. (Hunt).

COTTON

BOLLWORMS (Heliothis spp.) - ALABAMA - Heavy infestations continued in isolated fields in all parts of State where control efforts poor. Problem fields reported in Monroe, Escambia, Morgan, Cullman, Hale, Marengo, Conecuh, Colbert, Russell, and Barbour Counties. (McQueen). MISSISSIPPI - Eggs and young larvae present on 20-40 percent of terminals, up to 100 percent of terminals in some fields, in some Delta area counties and in Noxubee and Lowndes Counties in hill section. Some fields in Delta area counties with no eggs or larvae in terminals; no treatments yet made. (Robinson). TENNESSEE - H. zea (bollworm) becoming very difficult to control; damage very heavy in untreated fields. (Locke). ARKANSAS - H. zea flights increased in some areas. Much cotton unattractive, but that still green is attractive. Treatments in green cotton to continue. (Boyer). TEXAS - Larvae and eggs of H. zea and H. virescens (tobacco budworm) increased in green cotton in south-central counties. In mature fields, infestations restricted to these spots. Percentage of H. virescens reached 80-90 in many fields in Brazos, Burleson, and Robertson Counties. (Cole). OKLAHOMA - H. zea counts in Jackson County ranged 0-150 eggs per 100 terminals, averaged 16 larvae per 100 terminals, and damaged squares averaged 9 percent. Larvae per 100 terminals ranged 2-35 in Bryan County, 0-15 in Wagoner County, and 0-22 in Muskogee County. Larvae collected at Chickasha, Grady County, 45 percent H. virescens. (Okla. Coop. Sur.). NEW MEXICO - H. zea eggs and damaged cotton squares continued to increase. Populations still relatively light in Dona Ana County, only 12 of 279 fields showed more than 6 damaged squares per 100 plants. (N.M. Coop. Rpt.).

BOLL WEEVIL (Anthonomus grandis) - ALABAMA - Percent infestation ranged 3-20 in most fields throughout State as result of good controls; ranged 30-90 in isolated fields with poor control efforts. (McQueen). TENNESSEE - Caused much damage to small bolls in late cotton. Third-generation weevils emerging. (Locke). TEXAS - Infestations declined in south-central and gulf coast area counties. Diapause noted in 60+ percent of population. Diapause control programs initiated in some counties. (Cole). OKLAHOMA - Punctured squares ranged up to 20 percent in Washita and Caddo Counties, 0-16 percent in southwest counties, and 0-30 percent in Bryan County. (Okla. Coop. Sur.).

BANDEDWING WHITEFLY (Trialeurodes abutilonea) - MISSISSIPPI - Still moderate to heavy in cotton over State. Recent rains washed off heavy infestations in some fields. (Robinson).

TOBACCO

TOBACCO FLEA BEETLE (Epitrix hirtipennis) - KENTUCKY - Populations appeared stabilized or lighter than usual for time of year on tobacco in certain areas. Adults averaged 2 per leaf in Lincoln County. (Barnett).

TOBACCO MOTH (Ephestia elutella) - NORTH CAROLINA - Heavy larval infestations in curing tobacco noted in Wake, Duplin, Pitt, and Wayne Counties. Infestations usually traced to stored 1972 tobacco. (Puckett et al.).

SUGAR BEETS

TARNISHED PLANT BUG (Lygus lineolaris) - MICHIGAN - Damaged sugar beets in Arenac, Bay, Tuscola, and Huron Counties. Damage ranged from curling and bronzing of some leaves to blasting of new growth in plant crowns in severely infested fields. New growth needed to complete development. Plant crowns should be checked and treated if infestation easily found. (Fogg et al.).

MISCELLANEOUS FIELD CROPS

BERTHA ARMYWORM (Mamestra configurata) - WASHINGTON - Leaf skeletonizing prevalent in 30-acre hopyard at Prosser, Benton County, where oviposition relatively heavy 14 days ago. (Cone).

CABBAGE LOOPER (Trichoplusia ni) - WASHINGTON - Larvae of this species and Autographa californica (alfalfa looper) moderate on second-cutting spearmint in Wapato area, Yakima County; less than one per sweep. (Klostermeyer).

TARNISHED PLANT BUG (Lygus lineolaris) - OHIO - Adults and nymphs fed on 80 percent of blooms in 30-acre Erie County sunflower planting. (Fox).

TWOSPOTTED SPIDER MITE (Tetranychus urticae) - WASHINGTON - Populations declined rapidly in hopyards in Benton County. Cool nights apparently responsible; first overwintering form seen August 25. (Cone).

A THRIPS (Heterothrips auranticornis) - OHIO - Ranged 4-50+ per bloom in 100 percent of Erie County sunflower planting. About 30 acres involved. (Fox).

DECIDUOUS FRUITS AND NUTS

EUROPEAN RED MITE (Panonychus ulmi) - MAINE - Populations increased significantly due to prolonged high temperatures. Treatments will be needed in many apple orchards. Foliage protection main concern at present. (Gall). OHIO - Increased, due to 10 hot and humid days, in several Fairfield County apple orchards on integrated control programs. Slight leaf bronzing occurred; populations held at noneconomic levels by predaceous mites. (Holdsworth).

PEAR PSYLLA (Psylla pyricola) - UTAH - Infested number of pear trees in Salt Lake County and at Centerville, Davis County. (Burningham).

PECAN WEEVIL (Curculio caryae) - OKLAHOMA - Adult emergence heavy following rains of September 3 and 4 in Stillwater area, Payne County. (Okla. Coop. Sur.).

MAN AND ANIMALS

SCREWWORM (Cochliomyia hominivorax) - A total of 712 confirmed cases reported in continental U.S. during period August 26-September 1 as follows: Texas 380, New Mexico 74, Arizona 247, California 9, Colorado 1, Nevada 1. Total of 444 cases confirmed from Mexico. Number of sterile flies released this period totaled 141,412,200 as follows: Texas 102,976,800; New Mexico 11,287,800; Arizona 25,077,600; California 2,070,000. Total of 33,208,200 sterile flies released in Mexico. (Anim. Health).

FACE FLY (Musca autumnalis) - MISSISSIPPI - Averaged 20+ per face on cattle in southern Monroe County, 10+ per face in northern Monroe and Lee Counties. (Robinson).

HORN FLY (Haematobia irritans) - MISSISSIPPI - Ranged 600-700 per head on beef cattle in Monroe and Lee Counties. (Robinson). OKLAHOMA - Moderate on cattle in Grant County. (Okla. Coop. Sur.).

MOSQUITOES - OHIO - Most Anopheles spp. and Culex spp. at peak and beginning to decline. Aedes vexans near peak and A. trivitattus populations heaviest 21 days ago. Due to heavy populations this year, residents will not experience much relief until decline well underway. Mosquitoes not as prevalent statewide since 1969. One field crew (2 men) operating 3 traps per night per week collected 250,000+ adults this season. Anopheles crucians taken at Belpre vicinity, Washington County, August 29-31 in above average numbers. This is a new county record. (Ohio Dept. Health). WISCONSIN - Populations continued to increase in many areas; moderate to heavy in Bayfield and Chippewa Counties. Recent rains indicate situation will worsen over most of State, except possibly in some southernmost counties where rainfall has been less. (Wis. Ins. Sur.). MINNESOTA - Light trap counts rose sharply. Aedes vexans made up 97 percent of total catch. In evening bite collections, A. vexans accounted for 259 of 260 females taken, and in daytime bite collections 88 percent of 949 females taken in 119 collections. Two mosquito egg collections revealed diapause rates of 36 and 20 percent, respectively. (Minn. Pest Rpt.).

FEDERAL AND STATE PLANT PROTECTION PROGRAMS

GYPSY MOTH (Porthetria dispar) - MICHIGAN - Survey produced startling results during August. Catches confirmed in 15 counties; 1,400 moths taken in 775 traps as of September 6. Center of infestation appears to be Isabella and Gratiot Counties. (Moore).

GRASSHOPPERS - NEW MEXICO - Various species still heavy at Silver City, Grant County, and in Glenwood area of Catron County. Brachystola magna feeding on other dead grasshoppers caused slipery spots on roads. (N.M. Coop. Rpt.). UTAH - Grasshoppers much more of problem than for several years on Washington County farms, in orchards, and some range and pasture areas. (Huber, Knowlton).

JAPANESE BEETLE (Popillia japonica) - MICHIGAN - Trap catches during August revealed heavy infestations in Kalamazoo County (involving about 500 acres) and near Devils Lake, Lenawee County, (about 1,200 acres). (Moore).

PINK BOLLWORM (Pectinophora gossypiella) - NEW MEXICO - Larvae still light in cotton. Averaged two small larvae per 100 bolls in Dona Ana County; 20 adults taken in sex lure traps. (N.M. Coop. Rpt.). ARIZONA - Infestations stabilized with 6 percent boll count in Yuma County. First bale of cotton for season ginned. (Ariz. Coop. Sur.).

Turf and Pasture - Adults of GRASS WEBWORM (Herpetogramma licarsisalis) heavy in mixed stand of grasses bordering fairway of golf course at Kaneohe, Oahu. Larvae reportedly heavy previous week, but currently at trace levels throughout most of fairways. Late-instar larvae averaged less than one per square yard in areas of heaviest density. (Narahara, Kawamura).

General Vegetables - TOMATO PINWORM (Keiferia lycopersicella) moderate and LEAFMINER FLIES (Liriomyza spp.) heavy in old, one-acre tomato planting at Kula, Maui; light in adjoining 2 acres of tomato. Pinworm heavy in one acre of eggplant at Punaluu, Oahu; 85 percent of all leaves infested or damaged. (Miyahira, Kawamura). Infestation of Liriomyza spp. generally light to moderate in one-acre cucumber planting at Pupukea, Oahu; heavy on 12 percent of (mostly older) leaves. Pupae and late larvae moderate on upper surfaces of heavily mined leaves. Adults moderate, 0-5 per leaf, throughout planting. Larval mines generally light in 8 acres of watermelon, adults negligible, at Kahuku. All stages of CARMINE SPIDER MITE (Tetranychus cinnabarinus) heavy in planting of eggplant at Punaluu. Also heavy on lower leaf surfaces of chrysanthmum planting at Pupukea; negligible on adjacent younger plants. PEPPER WEEVIL (Anthonomus eugenii) heavy on young sweet pepper plants at Punaluu; larvae and/or adults infested about 50 percent of fruits. (Kawamura).

Forest and Shade Trees - An ADELGID (Pineus pini) light to moderate on about 24 Pinus spp. trees (10-12 feet tall) in and adjacent to pine forest area at Olinda, Maui. During early July, single foot-tall sapling reported infested--first report then of occurrence in a forest on Maui. All infested trees in this situation have been rogued. (Miyahira).

DETECTION

New County Records - A MOSQUITO (Anopheles crucians) OHIO - Washington (p. 643). NORTHERN CORN ROOTWORM (Diabrotica longicornis) WISCONSIN - Burnett, Washburn (p. 637). WESTERN CORN ROOTWORM (Diabrotica virgifera) NORTH DAKOTA - Barnes, LaMoure (p. 638). WISCONSIN - Sawyer, Washburn (p. 637). SPOTTED ALFALFA APHID (Therioaphis maculata) NORTH DAKOTA - Barnes, Ransom, Sargent, Richland (p. 636).

CORRECTIONS

CEIR 23(35):598 - SUGAR BEETS - "BEET WEBWORM (Loxostege stiticalis) ..." should read "BEET WEBWORM (Loxostege sticticalis) ..."

CEIR 23(35):600 - DETECTION - New State Records - "VERMONT - T. sackeni Rutland County ..." should read "VERMONT - T. sackeni, T. sagax - Rutland County ..." See CEIR 23(35):603.

CEIR 23(35):604 - "AN ICHNEUMON WASP (Hyposoter fugitivus) ..." should read "AN ICHNEUMON WASP (Hyposoter frugitivus) ..."

CEIR 23(35):605 - BENEFICIAL INSECTS - "BRACONID WASPS (Opius phasioli ..." should read "BRACONID WASPS (Opius phaseoli ..."

LIGHT TRAP COLLECTIONS

	Temperature °F.	Precipitation (inches)	Type of trap (BL = blacklight, I = incandescent, MV = mercury vapor, O = other)	Agrotis ipsilon (black cutworm)	Estigmene acrea (saltmarsh caterpillar)	Euxoa auxiliaris (army cutworm)	Faronta diffusa (wheat head armyworm)	Feltia subterranea (granulate cutworm)	Heliothis virescens (tobacco budworm)	H. zea (bollworm, corn earworm, tomato fruitworm)	Laspeyresia pomonella (codling moth)	Loxostege commixtalis (alfalfa webworm)	Loxostege rantalis (garden webworm)	Loxostege sticticalis (beet webworm)	Manduca quinquemaculata (tomato hornworm)	Manduca sexta (tobacco hornworm)	Ostrinia nubilalis (European corn borer)	Peridroma saucia (variegated cutworm)	Pseudaletia unipuncta (armyworm)	Spodoptera exigua (beet armyworm)	Spodoptera frugiperda (fall armyworm)	Spodoptera ornithogalli (yellowstriped armyworm)	Trichoplusia ni (cabbage looper)	Crops
ARIZONA																								
Mesa 8/27-9/2			BL	6						18						11		12	4	5903		85	418	
FLORIDA																								
Gainesville 8/31-9/6			BL						1	3						1			1	2	4	2		
KANSAS																								
Great Bend 8/29-9/3			BL	72		232	142			1306									242		6	206		
Tribune 8/27, 30			BL			1				3									2					
KENTUCKY																								
Princeton 8/30-9/5			BL	16	122					58						129			9			8	1	
Lexington 9/6-7			BL							8						1			8			25		
MICHIGAN (Counties)																								
Lenawee 8/27-9/2			BL							44							74		86				30	
Monroe 8/27-9/2			BL							38							90		74				27	
MISSISSIPPI																								
Stoneville 8/31-9/6	70-90	1.49	2BL	172	30			34	271	648					2	4		1	525	918	327	543	12734	
NEW HAMPSHIRE																								
Lee 9/2			BL	5										5					5		4			
Stratham 9/5			BL	2						1				1					1		2		2	
NEW JERSEY																								
Seabrook 8/29-9/4			7BL	49						116							124				14		25	
Vineland 8/29-9/4			7BL	53						269							25				17		19	
OHIO																								
Wooster 8/31-9/6			BL	82			80			3							42	30	77		868	59	11	
OREGON																								
Canby 8/30-9/5			BL	20														33						
Dever 8/30-9/5			BL	35														76						

LIGHT TRAP COLLECTIONS

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PENNSYLVANIA (Districts)																								
Central 8/25-9/4			BL	6	1										1		14	3	8		109	5		
Northeast 8/25-9/4			BL	2															6					
TENNESSEE (Counties)																								
Fayette 9/4-7			BL	20	11			1	6	56									21	18	10	49	95	
Hardeman 9/4-7			BL	128	5			24	8	50						1	1	1	103	11	23	127	80	
VIRGINIA																								
Blacksburg 8/31-9/6			BL	11						80							4		31					
WISCONSIN																								
Lancaster 8/29-9/4			BL	6						36							1		22		1			
Mazomanie 8/29-9/4			BL							33							12	1	7		1			

Early Friday, Delia's rain diminished in the southern Plains but remnants of Delia drifted into the central Plains and upper Mississippi Valley. Clinton, Kansas, got 1.10 inches. Saturday, considerable thunderstorm activity continued over the Plains while another thunderstorm pocket accompanied a cold front into the Northwest. Saturday evening, golf-ball size hail fell near Denver while Moorcroft, Wyoming, got 1 inch of rain. Sunday, thunderstorms hit the central gulf coast and Tennessee. Wilmington, North Carolina, reported 3.64 inches of rain while Sumpter, South Carolina, reported 1.28 inches. Scattered sections of the central Midwest received more than 5 inches of rain while hailstones up to 6 inches in diameter damaged mobile homes near Casper, Wyoming.

TEMPERATURE: Sections of the East and South averaged 3 to 6 degrees above normal, mostly due to a heat wave that started 2 weeks ago and broke Thursday night or Friday. The front that cracked the heat had spent over a week traveling across the Plains and Midwest. Sections of the southern Plains averaged from 6 to 9 degrees below norm. The front was delayed by a large High system which finally moved out over the Atlantic Wednesday and by tropical storm Delia. Monday, Tuesday, and Wednesday, the heat continued in the East. Upstate New York temperatures peaked in the low and mid 90's all three days. Tuesday, Boston hit 94 degrees breaking the record set in 1884. Philadelphia set a record of 93 degrees. However, it was even hotter in the Northwest, Medford, Oregon, recording 106 degrees. Wednesday, Burlington, Vermont, reached a record 90 degrees. A large High over Montana kept the Corn Belt and the northern Plains maximums in the high 70's and low 80's. The same High pulled desert air north into Washington and Oregon where temperatures hit the upper 80's and low 90's. Orofino, Idaho, hit 103 degrees, Moscow hit 100 degrees. Thursday evening, a High then centered over Iowa pushed the front east. It extended from Upstate New York, lay roughly along the Appalachians and stretched through Tennessee and Kentucky into Arkansas. Early Friday, it moved through the Northeast relieving millions from the heat wave. Albany, New York, dipped to 47 degrees that night. However, oppressive heat, humidity, and smog continued in the Southeast. Friday was a fresh clear, crisp fall day in the Northeast. Coolness came also to the northern Rockies. Havre, Montana, reached a high of 66 degrees Friday after a 91-degree high Thursday. Saturday morning, fall temperatures showed themselves along the Canadian border. Redmond, Oregon, and Pellston, Michigan, both had 39 degrees. Midday 50's were common from the Pacific Northwest to the Great Basin. Salt Lake City, Utah, reached a 57-degree high compared to 87 degrees Friday. Sunday, fall was even more evident. Snow dusted Mt. Washington, New Hampshire, while locations in New England, the Lake States, and the Rockies dipped into the 30's. Nationwide, a rather mild day followed with highs mostly in the 70's and low 80's.

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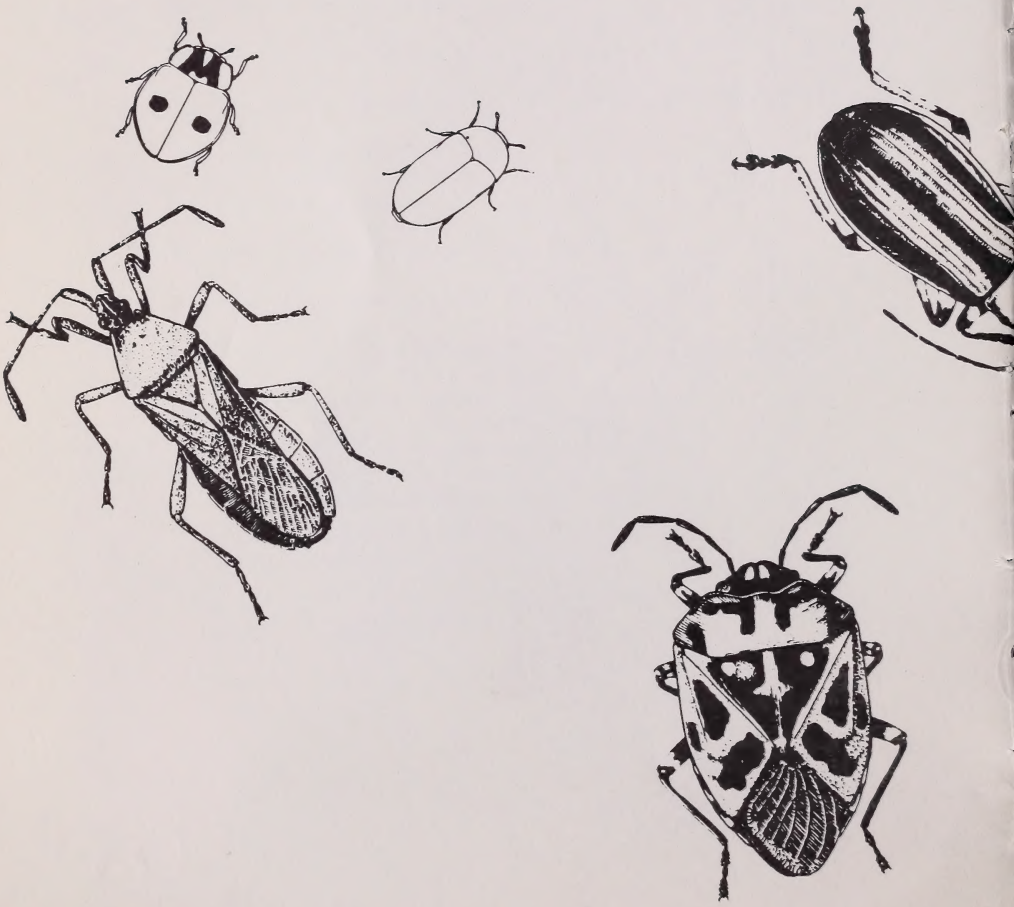
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